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REMARKS

Claims 1-32 are pending in the present Application. Reconsideration and allowance of the claims are respectfully requested in view of the following remarks.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1-18 and 32 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 5,714,550 to Shaw in view of Properties of Polymers by Krevlen (pages 523-525) and Physical Properties of Polymers by Bucche (pages 112-116 and 295-303). Applicants respectfully traverse this rejection.

As noted by the Examiner Shaw discloses a composition comprising a blend of polyamide and polyphenylene ether, a polysiloxane and a boron compound but Shaw does not teach or suggest the use of a polyamide having a particular molecular weight or range of molecular weights. Shaw discloses a general desire for polymer blends having higher heat deflection temperatures. Shaw goes on to note that fire resistant thermoplastic resins and blends are also desirable but the inclusion of a flame retardant can have a negative impact on mechanical properties such as heat resistance. (Col. 1, lines 21-42)

Bucche discusses the relationship between polymer molecular weight and glass transition temperature, which, in general, can be summarized as the higher the molecular weight of a given polymer, the higher the glass transition temperature. Krevlen teaches that at the heat distortion temperature "the polymer begins to deform at a rapid rate over a narrow temperature interval" and the heat distortion temperature is near the glass transition temperature. (Krevlen, page 524) The Examiner has combined the teachings of Krevlen and Bucche to support the assertion that it would have been obvious to use a polyamide "with whatever weight average molecular weight through routine experimentation in order to obtain a polyphenylene ether composition with proper heat deflection properties." (Office Action Page 3).

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness, i.e., that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally

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available in the art at the time of the invention, contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Applicants respectfully point out that neither the cited references nor their combination contain all the elements of the claimed invention, notably a polyamide having a weight average molecular weight greater than or equal to 75,000 as determined by gel permeation chromatography using polystyrene standards. The Examiner has asserted that the Applicants have not shown the criticality of the polyamide molecular weight. Applicants strenuously disagree. Comparative Examples 1 and 2 demonstrate the difference in flame retardant behavior between a composition having lower molecular weight polyamide (62,593) without an impact modifier (Comparative Example 1) and a composition having lower molecular weight polyamide (62,593) with impact modifier. As can be seen by comparing the average flame out time (FOT) per bar, Comparative Example 2, which contains the impact modifier, has a FOT almost twice that of Comparative Example 1. It's reasonable to expect that similar compositions employing high molecular weight polyamide (in this case 82,025) would exhibit a similar phenomenon, namely that the composition comprising an impact modifier would exhibit significantly decreased fire retardance compared to the composition without impact modifier. Unexpectedly they don't. Example 1 which comprises high molecular weight polyamide and an impact modifier has an average FOT approximately the same as Comparative Example 3 which comprises high molecular weight polyamide but not impact modifier. Thus flame retardance can be achieved in compositions containing an impact modifier without a loss in physical properties due to the presence of additional flame retardant.

Additionally, Applicants wish to point out that the teachings of Krevelen and Bueche are primarily relevant to single polymer systems as opposed to multi-component blends.

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Given the unpredictability of the chemical arts and the complex interactions between the components of the multi component system it is not clear that to what extent the teachings of Krevelen and Bueche may be reasonably applied to multi-component blends.

Claims 1-30 and 32 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 4,600,741 to Aycock, as evidenced by Krevelen and Bueche in view of Shaw. Aycock is directed to a particular method of compatibilization for polyphenylene ether/polyamide resin blends. Aycock, similar to Shaw, does not teach or suggest use of a polyamide having a weight average molecular weight greater than or equal to 75,000 as determined by gel permeation chromatography using polystyrene standards. Accordingly the combination of Aycock, Krevelen, Bueche and Shaw does not support a prima facie case of obviousness for at least the reasons described above.

Claims 1-30 and 32 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over U.S. Patent No. 4,600,741 to Aycock, as evidenced by Krevelen and Bueche in view of Shaw and further in view of U.S. Patent No. 5,000,897 to Chambers. Because Chambers has been cited for its teaching with regard to citric acid Applicants believe that the Examiner intended to reject Claim 31. Regardless, Chambers does not teach or suggest use of a polyamide having a weight average molecular weight greater than or equal to 75,000 as determined by gel permeation chromatography using polystyrene standards and hence the cited references provide an inadequate basis for a prima facie case of obviousness.

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It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 07-0862.

Respectfully submitted,

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